9  *Sui generis* protection for farmers’ varieties

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**Introduction**

Farmers’ varieties are a vital source of diversity in plant breeding. Much has been written about the development of *sui generis* regimes for the protection of plant varieties as an alternative to the dominant model of protection enshrined in the International Convention for the Protection of New Varieties of Plants (UPOV Convention).¹ This chapter briefly discusses, first, the evolution of intellectual property protection in the area of plant varieties and, second, some of the fears that have been voiced over the years concerning the implications of plant variety protection (PVP) and plant patents, as well as some of the expectations about the benefits that could accrue to farmers through the development of *sui generis* forms of protection that cover farmers’ varieties. Against this backdrop, the chapter considers the main elements that may be present in *sui generis* regimes that depart from the model of the UPOV Convention, as illustrated by the *sui generis* systems adopted in India, Thailand and Malaysia as well as by the model legislation approved by the Organization of African Unity (OAU) in 2000. The requirements and other conditions of protection under these systems are examined, particularly as they apply to farmers’ varieties that do not comply with the uniformity or stability standards.

The main argument presented in this chapter is that although the design of *sui generis* regimes for the protection of plant varieties that do not apply the UPOV model has been on the agenda of many developing countries, nongovernmental organizations (NGOs) and academics for at least 20 years, little progress has been made in finding solutions to the complex conceptual and technical problems that are involved. Despite the experiences in a few developing countries, there is little evidence about what such regimes have achieved. Indeed, reliable models that can be followed do not seem to exist yet, and considerable work is still necessary to design a national regime that effectively addresses the needs of farming communities in a particular national context.
Evolution of PVP systems

Until the emergence of professional breeding at the beginning of the twentieth century, the improvement, production and exchange of seeds was entirely dependent on farmers’ practices. When breeding became a business activity of its own, breeders organized themselves to obtain some protection on the new plant varieties that they were creating. Farmers’ traditional practices of saving, replanting, exchanging or selling seed from their own harvest made it difficult to recoup investments in breeding. Both in the United States and Europe, early attempts were made to extend patent protection to plant varieties, but this possibility raised doubts – namely because of the incremental type of innovation that characterizes plant breeding – and fears began to develop regarding possible distortions of the patent system (Dutfield, 2003, 186). The Lisbon Diplomatic Conference on the Revision of the Paris Convention, which was held in 1958, considered the possible allowance of patents in this field, but no action was taken since the general view was that a ‘special law’ was needed to protect new plant varieties (Dhar, 2002, 4).

The legislative movement towards a special form of protection for plants was pioneered by the United States. In 1930, the Plant Patents Act was passed, which allowed for the protection of asexually reproduced varieties (except tubers). In Europe, efforts were made to develop a legal system that was adapted to the characteristics of innovation in plant varieties. The first legislation on PVP was introduced in the Netherlands in 1942, followed by Germany in 1953 (Van Overwalle, 1999, 161). The Association Internationale pour la Protection de la Propriété Intellectuelle and the Association Internationale des Sélectionneurs pour la Protection de Obentions Végétales (ASSINSEL) took the lead in the search for a specific legal means of protection. ASSINSEL requested the French government to organize what became the International Conference for the Protection of New Varieties of Plants, which was eventually convened in May 1957 in Paris. This conference laid down the basic principles of plant breeders’ rights that were later reflected in the 1961 UPOV Convention (Dutfield, 2003, 186–87).

Although the model of protection for breeders’ rights that is enshrined in the UPOV Convention and in the UPOV-based PVP laws has been influenced by patent law, it has also received a significant amount of influence from seed certification legislation. The incorporation of concepts derived from such legislation (notably the uniformity and stability standards) has led to important differences between PVP and patent law.

By the 1960s, three European countries had introduced breeders’ rights laws. Eight more nations followed suit in the 1970s. Also in 1970, the United States passed the Plant Variety Protection Act. Thereafter, plants could be protected in that country both by the 1930 Plant Patents Act and the 1970 Plant Varieties Protection Act – a possibility that was, as a matter of principle, excluded under the UPOV Convention. This situation prevented the United States from acceding to the UPOV Convention until the ban on the accumulation of protections was lifted by the revision of the convention in 1978 for countries that were already practicing it (Article 37). The ban was finally
eliminated entirely by another revision to the convention in 1991. As a result, under 1991 UPOV Convention, it is possible to accumulate patent and plant variety protection.7

While special plant patents, based on the Plant Patent Act, have been available in the United States since 1930 and breeders’ rights have been in existence since 1970, the landmark decision by the US Supreme Court in In re Chakrabarty opened the way for the issuance of utility patents for plants.8 The first patent to cover plants or segments thereof was issued by the US Patent and Trademark Office in Ex parte Hibberd.9 This patent covered genetically engineered maize with high levels of tryptophan. Thereafter, a large number of patents were granted covering any of the following subject matter:

- DNA sequences that code for a certain protein
- isolated or purified proteins
- plasmids and transformation vectors containing a gene sequence
- seeds
- plant cells and plants
- plant varieties, including parent lines10
- hybrids
- processes to genetically modify plants
- processes to obtain hybrids.11

European countries followed a narrower approach than the United States in regard to the patentability of plants. The 1973 Convention on the Grant of European Patents (European Patent Convention) excluded plant varieties from patent protection as well as the essentially biological processes for their production (Article 53(b)).12 These differences became apparent during the negotiation of the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement).13 While the United States argued for patents on plants, the European Economic Community proposed that the agreement maintain the restrictive approach of the European Patent Convention. The lack of consensus on the matter led to a compromise that left open considerable options for the members of the World Trade Organization (WTO). Article 27.3(b) of the TRIPS Agreement provides that members may exclude from patentability plants and animals other than microorganisms, and essentially biological processes for the production of plants or animals other than non-biological and microbiological processes. However, Members shall provide for the protection of plant varieties either by patents or by an effective sui generis system or by any combination thereof. This provision shall be reviewed four years after the entry into force of the WTO Agreement.

Consistent with this provision, many developing countries excluded plant varieties from patentability. Some also excluded DNA sequences and amino acid
sequences that corresponded to the peptides or proteins produced by naturally occurring organisms (Boettiger et al., 2004, 1093).

In accordance with Article 27.3(b), all WTO members are bound to protect plant varieties, but there is flexibility in regard to the form of protection. This flexibility was, as mentioned earlier, a reflection of the lack of consensus among the industrialized countries rather than a North–South divide. The precarious nature of the agreement reached on Article 27.3(b) is indicated by the fact that it was the only provision in the entire TRIPS Agreement that was subject to an early revision – 4 years after the agreement’s entry into force. This period was even shorter than the transitional period contemplated for developing countries and economies in transition (Article 65). While the review of Article 27.3(b) started in 1999, so far no outcome has been achieved and little interest has been shown by developed country members to make any progress on the matter.

Despite the fact that the UPOV Convention is not mentioned in the TRIPS Agreement, a UPOV-based breeders’ rights regime may constitute ‘an effective *sui-generis* system.’ More than 70 countries that are already members of the International Union for the Protection of New Varieties of Plants (UPOV), as well as others that generally follow the UPOV Convention model without being members of the union, intend to comply in this way with the TRIPS Agreement. However, the ability to grant patents, combine patents with breeders’ rights or develop other types of *sui generis* regimes for the protection of plant varieties, provided only that such regimes are ‘effective,’ has created considerable space for national legislations to design the modalities of protection in this area. In fact, the introduction of the concept of *sui generis* regimes in the TRIPS Agreement has triggered the interest of many developing countries, NGOs and academia in finding new modalities of protection for plant varieties specifically adapted to the needs of developing countries.

The latitude of Article 27.3(b) is such that the scope, requirements and rights conferred under a *sui generis* regime, as discussed later in this chapter, do not need to conform to those prescribed under patent law or under the UPOV Convention’s model of protection. Moreover, in some of the most recent legislation on PVP, it is apparent that other concepts have begun to have an influence, notably the notion of farmers’ rights as well as the principles of benefit sharing contained in the Convention on Biological Diversity (CBD) and in the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) (Correa, 2000). The introduction of these concepts has been decisive in modelling new *sui generis* systems on the matter in some countries, as elaborated later in this chapter.

As a result, there is a range of *sui generis* modalities of PVP, depending on the type of requirements imposed and the type of rights conferred. Such modalities include one or more of the following elements:

- new or relaxed requirements of protection that extend protection to varieties that do not currently conform with the conventional requirements of PVP as stated by the UPOV Convention;

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• the expansion of rights conferred to farmers with regard to the use of saved seeds;
• the addition of benefit-sharing provisions, with or without the registration of plant varieties.

However, it is difficult to define a typology of the existing sui generis regimes since many of them present a combination of these various elements. For instance, the Indian law, which is discussed in greater detail later in this chapter, extends PVP to some varieties that do not conform with the conventional requirements of PVP, expands the rights conferred to farmers under PVP and also includes benefit-sharing provisions.

Concerns about PVP

PVP that is based on the model of the UPOV Convention has raised two types of fears. On the one hand, some consider that PVP only benefits commercial breeders by creating private ownership rights to biodiversity, to the detriment of farmers/breeders and traditional communities that have ensured the conservation of plant biodiversity and varietal improvement for centuries. The recognition of PVP would only reward those at the very end of a more complex system of innovation and seed production and eventually limit farmers’ and communities’ rights to biodiversity and even reduce their space to innovate. A number of disadvantages for developing countries that choose to use UPOV-based PVP models have been identified, including the following:

• PVP encourages monopolies in genetic materials for specific traits;
• the plant variety holder may produce less seed than the demand to increase prices and profits;
• PVP inhibits the free exchange of materials;
• PVP increases the prices of seeds, which the poor farmer may not be able to afford;
• PVP will essentially benefit commercial breeders and not farmers or traditional communities;
• national breeders and local seed companies will be bought out by foreign companies;
• companies in the North will get full commercial control over the communities’ germplasm and knowledge;
• the criteria for protection will exacerbate the erosion of biodiversity, leading to harvest loss and further food insecurity;
• PVP will reduce information and germplasm flows and act as a disincentive to research;
• PVP under the UPOV Convention conflicts with the CBD benefit-sharing principles (GAIA/GRAIN, 1998; Chawla, 2003).
One of the most often mentioned fears is that the high level of uniformity required by PVP does not provide an agronomic advantage, but rather may erode the diversity in plant germplasm and negatively affect agricultural development and food security in the long run. It should be noted, however, that while greater uniformity may indeed be induced by the commercial breeders’ need to comply with such a requirement, it is often the result of a demand by farmers for yield and quality maximization, the desire by urban consumers and processing industries for quality and a need to comply with seed certification legislation in order to obtain an authorization to commercialize seeds.

From a very different perspective, doubts have been expressed about the effectiveness of PVP as a method of promoting investment in plant improvement. For instance, a study on the application of PVP in the United States found that whereas plant variety protection was initially designed as the primary (or even exclusive) form of intellectual property protection for seed-grown plants, the coming of plant biotechnology, and the dawning acceptance of utility patents for plants, has relegated plant variety protection to a secondary role. Modest statutory amendments to the PVPA have shown no real promise of lifting the PVPA up from this secondary status. Second, our empirical assessment of licensing and enforcement activities concerning U.S. plant variety protection certificates confirms that the PVPA regime as presently constituted plays only a marginal role in stimulating plant breeding research in the United States. Our assessment strongly suggests that the PVPA does not provide patent-like ex ante innovation and investment incentives and that the PVPA has not generated substantial ex post licensing and enforcement activity. Instead, its role in the United States appears to be very modest: it may serve as a marketing tool; it may provide some non-propagation licensing rights akin to contractual shrink-wrap rights, enforceable against those who deal in ‘saved’ seeds; and it may provide a superior alternative to trade secret protection – for example, for seeds whose secret parent lines might otherwise be revealed through reverse engineering.

(Kesan and Janis, 2002, pp. 776–777)

Other studies have also indicated a modest impact of PVP on private investments in research and development and on the number of varieties released as well as a tendency to focus on high value/low volume crops. In general, the literature assessing the impact of PVPs is largely inconclusive, particularly about the effects of such protection in developing countries. However, other studies have reported positive outcomes from the implementation of the UPOV Convention in several countries, such as a series of studies conducted by the UPOV Secretariat (see Box 9.1).
Box 9.1 Impact of the UPOV Convention in selected developing countries

Argentina

Argentina introduced a PVP system in 1973 and acceded to the UPOV Convention in 1994. The following effects have been noted:

- The average annual number of titles granted to domestic breeders was 26 in 1982–91, which more than doubled to 70 in 1992–2001 (267 percent).
- The average annual number of titles granted to foreign breeders was 17 in 1984–93, which more than trebled to 62 in 1994–2003 (355 percent).
- The improved performance of new, protected varieties is indicated, for example, in crops such as wheat and soybean, where the demand for new, protected varieties is shown by their increased proportion of the certified seed area, which rose from 18 percent to 82 percent and from 25 percent to 94 percent, respectively, since the introduction of the UPOV-based PVP law and accession to the UPOV Convention.
- An increase in the number of domestic breeding entities was seen, for example, in soybean and wheat, most of which occurred in the private sector.
- An increase of horizontal cooperation in the seed industry was identified, involving foreign seed companies and agreements for technology transfer between national research institutes and breeding entities with other national companies (technological relationship agreements), and this cooperation has resulted in the more rapid movement of germplasm.

China

The PVP system became operational in 1999, and China also became a member of the UPOV Convention in 1999. China’s PVP systems have only been in operation for 5 years and for only a limited number of genera and species, and it is not yet possible to evaluate their full impact. Nevertheless, the following effects have been observed:

- A rapid uptake by farmers of new, protected varieties such as maize and wheat has been seen, for example, in the province of Henan.
- New, protected varieties have been introduced for major staple crops (such as rice, maize and wheat), horticultural crops (such as rose, Chinese cabbage and pear), including traditional flowers (such as peony, magnolia and camellia), and forest trees (such as poplar).
• New, foreign varieties, particularly ornamental varieties, have been recently introduced.
• Commercial breeding activities have been stimulated in domestic public research institutes and domestic seed companies, with an increase in the number of breeders (e.g. of maize and wheat in Henan Province) linked to an increased number of PVP applications.
• An increase in the income of breeders has been seen, including public research institutions and agricultural universities, and further investment in plant breeding has been encouraged.

Kenya

In Kenya, the PVP scheme started to operate in 1997, and the country acceded to the 1978 Act of the UPOV Convention in 1999. Kenya grants plant breeders’ rights for all plant genera and species other than algae and bacteria. The following impacts have been observed:

• Significantly higher number of varieties of various agricultural crops were developed and released in the six-year period following the introduction of PVP (1997–2003), compared to the previous six-year period (1990–96), particularly for maize.
• There has been an increased introduction of foreign varieties, especially in the horticultural sector, which contributes to the diversification of the horticultural sector (e.g. the emergence of the flower industry) and supports the competitiveness of Kenyan products in global markets (cut flowers, vegetables and industrial crops).
• There has been an increased introduction of foreign germplasm in the form of new, protected varieties (especially of horticultural crops), which have been used by Kenyan breeders for further breeding.
• There has been an increase in the number of Kenyan-bred varieties of agricultural crops with improved performance (e.g. in yield, pest and disease tolerance, nutritional qualities, early maturity, and tolerance to abiotic stresses) for local farmers, including subsistence farmers. PVP titles for many Kenyan-bred varieties are in the hands of public institutions, and local farmers can use the propagating material of the new, protected varieties under privileged conditions (e.g. subsistence farmers have been permitted to exchange seed among themselves).
• Public/private partnerships for plant breeding have been facilitated, including partnerships between international research institutes and Kenyan seed companies, and there has also been an emergence of new types of breeders (university researchers, private farmer-breeders, and so on).

In sum, the adoption of PVP generates fairly divergent views ranging from the perception of a strong influence on seed production and use to opinions that minimize the possible impact on the generation of new varieties. Those aligning with the first approach generally advocate either non-intellectual property right (IPR) protection or the development of *sui generis* regimes. For those sharing the second view, the solution would be provided by the application of utility patents. The following sections focus on some of the expectations raised by the adoption and the characteristics of *sui generis* regimes.

**Expectations about *sui generis* regimes**

A significant number of proposals, with a varying degree of detail, have been made for the protection of plant varieties under *sui generis* regimes that are not based on the UPOV model. The general aim of these proposals is to reward or otherwise protect the interests of commercial breeders as well as of farmers/communities that are contributing to the improvement of plant varieties and, at the same time, to promote the conservation and sustainable use of plant biodiversity. The proposals are generally based on one or more of the following considerations.

**Equity**

It is expected that a *sui generis* regime would allow for the recognition of the innovations made by farmers/communities, including compensation for a third party’s use of farmers’ varieties for commercial purposes. Such recognition would arguably bring equity into the relations between farmers and commercial breeders, which have been marked so far by a significant asymmetry.

**Conservation**

A common rationale for a *sui generis* regime of protection is the assumption that it may contribute to the conservation of farmers’ varieties and plant biodiversity in the fields. The legal recognition of and compensation for farmers’ contributions would encourage them to preserve their knowledge and practices, which are essential for a sustainable agriculture. Thus, the argument has been made that vesting legally recognized ownership of knowledge in communities through *sui generis* IPRs will raise the profile of that knowledge and encourage respect for it both inside and outside the knowledge holding communities. This will make the learning and development of such knowledge a more attractive prospect for the younger members of such communities, thus perpetuating its existence.

The possibility of economic returns for the use of that knowledge by third parties acts as a further incentive for community members to respect their knowledge and continue to engage in practices in which that knowledge is used and generated.

(Crucible Group II, 2001, 68–69)
Preventing misappropriation

Another important justification for a *sui generis* regime is that it may erect a barrier against the use or appropriation by third parties of innovations made by farmers/communities without their consent and without benefit sharing. This rationale is explicitly or implicitly present in most proposals for *sui generis* protection and is often based on the assumption that such regimes may counterbalance breeders’ rights (Genetic Resources Policy Initiative, 2006, 19).

Dissemination of knowledge

The existence of a *sui generis* regime of protection would encourage the dissemination of innovations by farmers/communities. In line with this argument, it has been observed that

> indigenous and local knowledge holders will be more willing to disclose otherwise secret knowledge once they know *sui generis* laws can give them control over how their knowledge gets used. In this way, IP laws encourage the disclosure, use and proliferation of knowledge that might otherwise be lost.

(Crucible Group II, 2001, 69)

Farmers’ freedom to save and sell seeds

Occasionally, the development of a *sui generis* regime has been seen as being instrumental in allowing farmers to continue to use their traditional varieties and to sell the seeds of these varieties (Genetic Resources Policy Initiative, 2006, 10). It has also been regarded as being necessary to preserve farmers’ freedom to utilize, save or even sell varieties protected by third parties that have been derived from their own varieties.

Incentive

Finally, a *sui generis* regime is often deemed to be an incentive for farmers/communities to produce new varieties and thereby widen the sources for further variation as well as to encourage them to share them with other farmers/communities or conventional breeders. In many cases, the proposals for the creation of *sui generis* regimes have not made their objectives explicit, and it is difficult to ascertain what the rationale for the protection is. In addition, it is not always clear whether the design of the proposed regimes is such that they could be successful in reaching what seems to be their intended objective. As noted by the Crucible Group II, merely using a law to make something into property that was previously part of the public domain ‘does not suddenly save it, conserve it, make people respect it or want to use it . . . Fencing off their knowledge does nothing to protect it from being even more
eroded, undermined, or ignored or at risk of being lost’ (Crucible Group II, 2001). Achieving some of the possible objectives of the *sui generis* regimes may not require any new or additional legislation, whereas other objectives could require amendments to seed legislation rather than the establishment of a new IPR (Genetic Resources Policy Initiative, 2006, 10). Some of the possible disadvantages of a *sui generis* regime that assigns property rights are indicated in Box 9.2.

One of the basic issues to be addressed under a *sui generis* regime is whether it is necessary or convenient and whether the potential benefits brought about by property rights over farmers’ varieties would offset the potential costs derived from the establishment of private rights. There is a great deal of controversy over this issue. Many proposals have been made to provide a *sui generis* protection that would cover new commercial varieties as well as farmers’ varieties, and some national laws have already implemented this dual approach. There is also a great deal of opposition to the belief that conferring private rights on farmers’ varieties would be beneficial to the farmers/communities. Thus, it has been argued that where communities are concerned and where the innovation is the result of a collective process and collective action, assigning property rights to an individual or corporate holder may well lead to reduced availability of germplasm. It may also have the effect of further marginalizing those plant genetic resources and knowledge processes that are not covered by

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**Box 9.2 Possible disadvantages of a sui generis regime**

- IPRs are meant to promote the invention of new things, such as plants. Protecting existing plants is not in line with this basic idea.
- IPRs could be a disincentive to the exchange of genetic resources between farmers and could thus lead to genetic erosion.
- With totally exclusive IPRs, farmers would probably tend to isolate commercially successful varieties, which could lead to the erosion of diversity.
- Since only the commercially attractive varieties are protected, it would not be not sufficient to support the maintenance of all diversity.
- The allocation of the rights could lead to intercommunity distress and social conflict because often the ownership of these rights is not clear.
- Transaction costs could be high.

*Source: Genetic Resources Policy Initiative (2006, 19).*
the property rights regime. Indeed, the mere existence of such rights may still not offer sufficient incentives to develop markets that adequately capture the value of biodiversity, again, because of the public goods nature of many of the benefits. In particular, assigning exclusive property rights to germplasm might reduce the ability of poorer farmers to access seed germplasm, given that often less informed, less educated, and marginalized rural populations are at a disadvantage in claiming ownership... The granting of exclusive intellectual property rights over germplasm might reduce access to plant genetic material to everyone, including poorer farmers. Thus, even the seemingly positive benefits of granting intellectual property rights to local communities may lead to unintended negative consequences.

(Eyzaguirre and Dennis, 2007, 1495)

An aspect that is often disregarded in the proposals for *sui generis* regimes that encompass farmers’ varieties is that, as noted in the preceding quotation, individual farmers or communities may face a significant burden in complying with the formalities for acquiring rights such as registration because of both the complexity and possible cost of the procedures. Most importantly, enforcing any conferred rights would require considerable effort and resources. Most farmer-bred varieties are unlikely to capture a significant share in the commercial seed market, and when a variety occasionally does achieve such a share, it may be very difficult for the rights holder to monitor whether an infringement has occurred (Salazar, Louwaars and Visser, 2007, 1523). Moreover, if an infringement has been identified, bringing a legal action in court would generally be very costly and beyond the reach of farmers/communities. The outcome of litigation may also be uncertain, especially when more than one farmer or community claims ownership of a particular plant variety.

Most importantly, all of these considerations probably underestimate the fact that many communities might not accept the concept of property rights over germplasm and might not wish to exercise community rights against their neighbouring communities. Assigning ownership for financial or other economic returns may run against farmers’ spirit of free exchange. These cultural motives may prevent the widespread application of new *sui generis* regimes more than the legal problems emerging from any attempt to bring farmers’ varieties under current IPR systems (Salazar et al., 2007, 1523).

Even if rights holders were willing and able to exercise the conferred rights, a further uncertainty is the state’s capacity to implement *sui generis* legislation, especially to assess whether a particular variety meets the requirements of eligibility for protection. As mentioned later in this chapter, administrative authorities must establish whether a variety for which protection is sought is novel, distinct, uniform and/or stable, or at least identifiable, depending on the national law. This assessment requires technical competence, which is missing or insufficient in many developing countries, particularly if the legislation applies to
a broad range of crops. Countries adhering to the UPOV Convention may rely on the technical assistance provided by or through its Secretariat. There is no organization playing a similar role for those countries opting for a *sui generis* regime.

Whatever the expectations are about the goals that *sui generis* regimes may achieve, they cannot be empirically confirmed or dismissed so far, since only a few countries have introduced such regimes and they have only done so in the recent past. As noted by Pablo Eyzaguirre and Evan Dennis (2007, 1495), the current debates on the feasibility and benefits of establishing intellectual property protection in this area ‘are often stymied or sterile due to the lack of empirical evidence and experiences of local communities and indigenous groups with established rights to local biological and biocultural resources.’

**Scope and conditions of protection under *sui generis* regimes**

A *sui generis* intellectual property regime is a set of rules tailored to the particular characteristics of the subject matter that it is intended to protect. The specificity of a *sui generis* regime is determined by the application of different requirements to obtain protection, including the subject matter that is being protected (e.g. commercial varieties and/or farmers’ varieties); the scope of the rights that are conferred; the conditions that are imposed on the applicants or rights holders (e.g. disclosure of the source of the material); and the recognition of farmers’ rights as defined in the ITPGRFA.

In the literature, *sui generis* regimes for plant varieties are often deemed to be those that differ from the model established by the UPOV Convention, although, as noted earlier, the latter may also be regarded as a *sui generis* system, given its significant differences with the patent regime. In the next sections, some of the special features of *sui generis* systems for plant varieties that diverge from the UPOV model are examined.

**Coverage**

While PVP focuses on new plant varieties, *sui generis* regimes may cover other categories of varieties that are not necessarily novel or that do not comply with one or more of the requirements under the UPOV Convention. For instance, the Indian Protection of Plant Varieties and Farmers’ Rights Act (PPVFR Act), which was adopted in 2001, applies to: (1) new plant varieties; (2) extant (domestic and existing) varieties; and (3) farmers’ varieties. Under the PPVFR Act, farmers’ varieties are a subset of extant varieties. They include varieties that have ‘been traditionally cultivated and evolved by the farmers in their fields’ and those that are a ‘wild relative or landrace of a variety about which the farmers possess the common knowledge’ (Article 2(1)). Thailand also adopted a *sui generis* regime in 1999. The Plant Varieties Protection
Act (PVP Act) applies to new and local varieties as well as to local domestic and wild varieties with a differentiated regime, as discussed later in this chapter. In accordance with this Act:

- A ‘local domestic plant variety’ means ‘a plant variety which exists only in a particular locality within the Kingdom and has never been registered as a new plant variety and which is registered as a local domestic plant variety under this Act.’
- A ‘wild plant variety’ means ‘a plant variety which currently exists or used to exist in the natural habitat and has not been commonly cultivated.’
- A ‘general domestic plant variety’ means ‘a plant variety originating or existing in the country and commonly exploited and shall include a plant variety which is not a new plant variety, a local domestic plant variety or a wild plant variety’ (section 3).

In Malaysia, new commercial and ‘traditional’ varieties are covered by the legislation adopted in 2004 (Protection of New Plant Varieties Act 2004), but the law incorporates the concept of ‘plant variety’ found under legislation modelled in accordance with the UPOV Convention.

Protection requirements

A new plant variety may be protected under the PVP laws that follow the UPOV Convention model if it meets the requirements of novelty, distinctness, uniformity and stability (NDUS). These requirements were essentially transposed to PVP regimes from the early seed certification laws enacted in Europe. They allowed for the differentiation of the plant protection regime from patent protection, which was generally deemed to be inappropriate for plant varieties at the time that PVP was first introduced. Sui generis systems may not apply one or more of the NDUS requirements. For instance, the Indian PPVFR Act allows for the registration of extant and farmers’ varieties that are not novel, but it requires that they conform to the distinctness, uniformity and stability (DUS) requirements (Article 15(2)). Dropping the novelty requirement (which is essential under PVP legislation) may significantly expand the range of varieties eligible for protection since those varieties that have been offered for sale or commercialized at any time before an application for protection is filed are eligible for protection. The Thai PVP Act does apply the NDUS requirements (except for local domestic plant varieties that need not comply with the novelty requirement), but with a modified distinctness criterion.

Section 14.2 of the Malaysian Protection of New Plant Varieties Act 2004 provides that plant varieties bred or discovered and developed by a farmer, local community or indigenous peoples are protectable if they are new, distinct and identifiable. While only ‘new’ varieties may be protected, this provision introduces a significant departure from the NDUS standards since
uniformity and stability are not required.\textsuperscript{34} This criterion is easier to apply to asexually reproducing crops that have built-in uniformity and stability than to other crops.\textsuperscript{35}

The African Model Law for the Protection of the Rights of Local Communities, Farmers and Breeders and for the Regulation of Access to Biological Resources (OAU Model Law), which was approved by the OAU in 2000, also proposes to grant protection to varieties that may be identified without relying on the NDUS requirements.\textsuperscript{36} Article 25(2) of the OAU Model Law states that

a variety with specific attributes identified by a community shall be granted intellectual protection through a variety certificate which does not have to meet the criteria of distinction, uniformity and stability. This variety certificate entitles the community to have the exclusive rights to multiply, cultivate, use or sell the variety, or to license its use without prejudice to the Farmers’ Rights set out in this law.

Hence, the OAU Model Law seems to replace the NDUS requirements by the following concept: ‘specific attributes identified by a community.’ It is unclear, however, which attributes would be considered and how they would be determined. The absence of general criteria to establish eligibility for protection might lead to significant uncertainty and competing claims about ownership.

Farmers’ varieties generally are composed of a number of different genotypes and are not subjected to a process of selection to increase uniformity since uniformity would pose a high risk to small farmers (Salazar et al., 2007, 1523).\textsuperscript{37} Different types within one farmer’s variety may develop in order to respond to particular growing conditions or may tend to predominate as a result of biological or abiotic stresses (ibid.). The lower degree of uniformity, in turn, means that new farmers’ varieties are less stable over generations than other varieties that meet the NDUS requirements.\textsuperscript{38}

Views differ about the extent to which the uniformity and stability standards may be left out. One view is that their absence may become very problematic since different communities may make multiple claims over the same variety, especially for crops that outbreed. Another view is that the uniformity standard may be compromised in protecting farmers’ varieties but that the stability requirement should definitely be preserved (Genetic Resources Policy Initiative, 2006, 11). According to still another opinion, an even more flexible approach is possible since the role played by the DUS requirements under intellectual property protection is not the same as it is under seed certification laws. These issues were discussed extensively at a meeting entitled ‘Exploring Legal Definitions of Farmers’ Varieties in Strategies to Promote Farmers’ Rights,’ sponsored by the Genetic Resources Policy Initiative (GRPI) in Hanoi and held 26–28 October 2006. Participants at the GRPI meeting in Hanoi concluded that the distinctness standard (or the ability to identify) was the most
important condition for a *sui generis* protection of farmers’ varieties\(^{39}\) and that the two other requirements could be lowered:

The group felt that the standards of uniformity set out in the UPOV guidelines could be loosened to take into account the special nature of farmers’ varieties (particularly with respect to out-breeders). Alternative standards from those set out in the guidelines created by UPOV could be developed . . . Stability is not so important as a condition for intellectual property protection . . . [t]he overseeing authority can always retract protections when a variety shifts as a consequence of instability . . . It could be argued that stability, for example, is an important criterion for the purposes of advancing the public protection policy goal of a seed law. However, it is not so relevant when one is discussing the conditions under which the state may grant a form of monopoly over the use of that same material.

(Genetic Resources Policy Initiative, 2006, 20–21)

In fact, there seems to be a good argument for allowing the relaxation of the uniformity and stability requirements, to the extent that it would not affect the identification of the subject matter of protection. The strict application of such requirements may lead to the exclusion of farmers’ varieties from the possible coverage of a *sui generis* regime since very few varieties (except in the case of asexually reproducing plants) would qualify for protection. A standard of identifiability (as already adopted by the Malaysian *sui generis* regime) may overcome the problem posed by the heterogeneity of farmers’ varieties as well as of extant varieties.\(^{40}\) It should be borne in mind, however, that allowing for a relaxation of the DUS standards may significantly complicate the enforcement of conferred rights in the case of disputes about the ‘title-hood’ of a particular variety or the infringement of rights.

The possible adoption of a standard of identifiability (associated with novelty and distinctness) was considered by the Crucible Group as one of the options for the protection of farmers’ varieties under a *sui generis* regime. In explaining this option, the Crucible Group stated that

this element replaces the relatively strict requirements of uniformity and stability with the looser condition of ‘distinctness and identifiability’ (DI) . . . A DI protection requirement would not comply with the UPOV Conventions. This would not be a problem, of course, for countries that are not signatories to the UPOV Conventions. Despite not satisfying the UPOV standards, the criterion of identifiability may well satisfy TRIPs Article 27.3(b), which includes no obligation on WTO member countries to follow the UPOV model or to become members of UPOV. Being the widest in scope, Element 3 could be used as a national baseline criterion. Varieties that satisfy the stricter criteria could qualify for stronger and/or longer protection.

(Crucible Group II, 2001, 148)
At the GRPI workshop in Hanoi, the participants recommended that it would be better to relax, rather than abandon, the uniformity requirement. It concluded that a *sui generis* regime could be based on ‘nDu’ standards, where

\[
\text{n = sui generis} \text{ novelty involving non-commercialization outside of the local setting of use of the farmers’ varieties in question (i.e. a variety would be deemed ‘new’ despite its use in a particular area, if not commercialized outside it); D = distinct as understood and identified in the UPOV Convention; and u = a relaxed standard of uniformity, taking into account the less uniform nature of many varieties bred by farmers.}
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(Genetic Resources Policy Initiative, 2006, 29)

Under this proposal, the novelty and uniformity requirements are less strict than under legislation based on the UPOV Convention, while the stability requirement is left out altogether. Only distinctness is preserved as it is provided for under such legislation, in recognition of the key importance of determining it for the operation of any plant variety protection system. Of course, the coverage of protection under these requirements would be much broader than under the UPOV Convention. Its implementation would require some safeguards to ensure that only varieties developed by a certain category of farmers (e.g. traditional farmers) are able to be protected since, otherwise, much of the output of commercial breeding may also be subject to protection. Further, although it would generally be in the interest of commercial breeders to have a strict set of conditions for PVP, such as they exist under the UPOV Convention, they may be in a better position than farmers/communities to use a broadly defined system of protection based on more relaxed requirements.

**Rights conferred**

*Sui generis* regimes may differentiate the rights granted in accordance with the type of plant varieties covered (NDUS-compliant varieties, farmers’ varieties and so on). They may also provide exceptions that are different from those admitted under UPOV-based legislation. Thus, in Thailand, the PVP Act differentiates the protection that is accorded to the specific categories of new or local plant varieties from the protection that is granted to the general categories of domestic and wild varieties. The new plant varieties may be protected under exclusive rights in the same way that they are under UPOV-type regimes. A similar protection scheme applies to registered local community varieties.41 General domestic and wild varieties are not eligible for exclusive rights, but rather are covered under a benefit-sharing mechanism. Permission by government officials is required in order to access these varieties for commercial purposes.42

In Malaysia, all protected varieties are subject to the exercise of exclusive rights generally available under PVP. In the case of India, extant varieties (including farmers’ varieties) may be granted exclusive rights in a way that is similar to that
of new varieties. It is important to note, however, that Article 39.1(iv) of the Indian PPVFR Act provides an exception for the reuse of seeds that is broader than what is mandated in the UPOV Convention. It allows farmers to save, use, sow, resow, exchange, share and even sell farm produce, including the seed of a variety protected under the Act, provided that the seed is not branded.

There are reasons to think that the provision of exclusive rights that are equivalent to those available under conventional PVP but subject to less strict requirements of protection may lead to a great deal of legal uncertainty and litigation. Hence, if the standards of uniformity and/or stability are relaxed, the corresponding rights should generally be narrower (Genetic Resources Policy Initiative, 2006, 10). In addition, the exercise of exclusive rights might defeat the very purpose of some of the *sui generis* regimes, to the extent that farmers and communities may be prevented from continuing with the practices of exchange that are so important to conserve plant diversity and ensure a sustainable agriculture.

*Prior consent and benefit sharing*

Some of the *sui generis* systems proposed or adopted so far combine, in varying ways, exclusive rights with elements of benefit-sharing regimes aimed at the recognition and eventual compensation of farmers’ innovations in accordance with the principles of the CBD. For instance, the Indian PPVFR Act provides for a detailed procedure for claiming compensation for benefit sharing (see Box 9.3).

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**Box 9.3 Benefit sharing under Indian law**

**Rights of communities**

1. Any person, group of persons (whether actively engaged in farming or not) or any governmental or nongovernmental organization may on behalf of any village or local community in India, file in any centre notified, with the previous approval of the Central Government by the Authority in the Official Gazette any claim attributable to the contribution of the people of that village or local community as the case may be in the evolution of any variety for the purpose of staking a claim on behalf of such community.

2. Where any claim is made under subsection (1), the centre notified under that subsection may verify the claim made by such person or group of persons or such governmental or nongovernmental organization in such manner as it deems fit and if it is satisfied that such village or local community has contributed significantly to the evolution of the variety which has been registered under this Act, it shall report its findings to the Authority.
While the Indian law contains benefit-sharing elements, this law is perhaps closer to the PVP regimes than it is to access legislation. Other systems rely more heavily on the mechanisms introduced by the latter legislation. Thailand, for instance, ‘has sought to provide other forms of incentives to breeders of domestic and farmers’ varieties (i.e. it is closer to a liability regime than a property rights regime’ (Robinson, 2007, 19). Moreover, under the OAU Model Law, farmers would be given the right to ‘obtain an equitable share of benefits arising from the use of plant and animal genetic resources’ (Article 26).

The benefit-sharing mechanisms to which the Indian law refers may be orchestrated through bilateral agreements between the providers and users of genetic resources. Yet, in many cases, the transaction costs may be too high and the system too complex for farmers and communities. An alternative solution is to ask that payments be made into a fund that would subsequently distribute compensation to farmers or otherwise support them and their communities. For instance, under the Indian PPVFR Act,

the farmer who is engaged in the conservation of genetic resources of landraces and wild relatives of economic plants and their improvement through selection and preservation shall be entitled in the prescribed manner for recognition and reward from the National Gene Fund.

(Article 39.1(iii))

The Thai PVP Act also establishes a PVP fund. Its income is generated from the collection, use, research or commercialization of general domestic or wild
varieties, registration fees, and so on. Similarly, the OAU Model Law envisions a ‘community gene fund’ (Article 66).

The application of this kind of benefit-sharing mechanism for farmers’ varieties rather than the application of exclusive rights that are generally conferred under PVP has several advantages, including the fact that the varieties remain available for use and exchange by any farmer or breeder and that the procedures to obtain benefits would presumably be simpler than negotiating and enforcing a voluntary license case by case. While contributions to the existing pool of plant varieties will be rewarded, their diffusion would not be blocked or retarded on the grounds of infringement of such exclusive rights.

**Conditions for the application of protection**

*Sui generis* regimes may include obligations on applicants or rights holders that are not required under UPOV-based laws. Outstanding examples are the obligation to disclose information about the source of a plant variety for which protection is sought as well as the obligation to obtain the prior informed consent of the traditional farmers/communities who have developed/(conserved the materials of origin. Thus, the Thai PVP Act makes the registration of a variety conditional upon the disclosure of the origin of either the new plant variety or the genetic materials used in the breeding of that variety (section 19(3)). In India, a breeder or other person making an application for registration of any variety must disclose information regarding the use of genetic material conserved by any tribal or rural families in the breeding or development of such a variety (Article 40(1)). In Malaysia, applications for the registration of a new variety are subject to the ‘prior written consent of the authority representing the local community of the indigenous peoples in cases where the plant variety is developed from traditional varieties’ (section 12(1)(f)). In Egypt, the PVP law requires disclosure of the source of breeding material and traditional knowledge as well as the prior informed consent of the traditional knowledge holders.

These types of conditions seem to be instrumental to the objectives of *sui generis* regimes that are aimed at preventing the misappropriation of genetic resources by commercial entities and at respecting the rights of local communities with respect to the plant varieties that they have developed and conserved.

**Rights holders**

A common criticism of PVP legislation has been the fact that rights can only be claimed by legally recognized natural or juridical persons and not by communities. This problem has been specifically addressed in the referred to *sui generis* regimes. For instance, under the Indian law, registration of a variety may be applied for individually or by a ‘community of farmers claiming to be the breeder of the variety’ (section 16(d)). In Thailand, section 44 of the PVP Act provides that a ‘*sui juris* person, residing and commonly inheriting and passing over culture continually, who takes part in the conservation or development of
the plant variety’ should appoint a representative for registration of the variety. The application should, inter alia, include the names of members of the community and ‘the landscape together with a concise map showing the boundary of the community and adjacent areas.’ Further, in accordance with section 45,

when a plant variety only exists in any particular locality and has been conserved or developed exclusively by a particular community, that community shall have the right to submit, to the local government organization in whose jurisdiction such community falls, a request for initiating an application for registration of the local domestic plant variety in the name of such community.

Problems with the attribution of rights to a community need also to be addressed in a *sui generis* regime that covers a broad range of categories of plant varieties, including farmers’ varieties.

**Conclusions: developing a *sui generis* system**

Establishing a *sui generis* regime for plant varieties poses significant technical, administrative and political challenges since many complex issues need to be addressed, and the adopted legislation will diversely affect different interest groups. Any attempt to develop a *sui generis* regime should be based on a careful assessment of the characteristics of the seed supply system, the role of private and public breeders, the structure of farm production, the farmers’ capacity to potentially use and enforce a new legal system and other relevant evidence. The process followed to develop such a regime (including consultations with potential rights holders) may be crucial to understanding the different issues at stake and to drafting a set of rules that is efficient and instrumental for achieving its intended objectives. In undertaking this task, it would be crucial to clarify from the outset the rationale for granting such protection (beyond compliance with the obligation under Article 27.3(b) of the TRIPS Agreement) as well as the way in which the provided set of rights may maximize possible benefits and minimize the costs of introducing a new modality of IPRs.

The effectiveness of a legal regime based on intellectual property concepts (such as granting exclusive rights) to ensure the conservation, sustainable use and improvement of farmers’ varieties should neither be presumed nor overstated. Such a regime would be irrelevant if other conditions are not met, particularly if farming communities are not able to keep their land and traditional practices. Indeed, too much emphasis on a solution based on IPRs may divert attention away from the factors that actually matter more to the preservation of plant diversity in the fields. In addition, granting exclusive rights may, under certain circumstances, be detrimental to the traditional practices of exchange and use of plant varieties and reduce, rather than promote, plant diversity and food security.

A key question to be addressed in designing a *sui generis* regime of plant variety protection that is intended to support farmers in the conservation, use and
improvement of farmers’ varieties is the extent to which different components of the overall national policy framework actually encourage such activities or, rather, stimulate the incorporation and use of commercial varieties. This would be the case, for instance, if the national policy actively promoted production for the supply of local or foreign markets demanding uniform agricultural products. In such cases, a *sui generis* regime of protection is very unlikely to provide by itself sufficient incentives to keep farmers’ varieties in the fields. In particular, the interaction between different legal regimes may lead to unintended effects. Thus, while a *sui generis* regime for farmers’ varieties may rely on a relaxed uniformity standard, farmers may be induced to develop more uniform varieties if this is required by the applicable seed certification law as a condition for the sale of seeds in the open market.

Even if the national policy framework were supportive of, or neutral to, the conservation, use and improvement of farmers’ varieties, an outstanding question is whether a *sui generis* regime would be compatible with the culture and perceptions of its potential beneficiaries and, if such were the case, whether the possible financial benefits derived therefrom would be greater than the costs of acquiring, maintaining and, in particular, enforcing any rights conferred. Another important question is whether the required capacity exists within the country to set up and administer a new and complex system of rights.

Defining the taxonomy of varieties to be protected, the requirements of protection, the scope of rights and who may claim the conferred rights are some of the complex technical issues that need to be addressed in a coherent way in designing a *sui generis* regime. As noted, only a few national *sui generis* regimes have been adopted so far. Although some of them were enacted as early as 15 years ago, still little information has been made available from which to assess if they have been effective in attaining their objectives. It is also noticeable that the *sui generis* OAU Model Law did not make its way into the national laws of the various African countries. Yet this should not discourage governments from designing new *sui generis* regimes at the national or regional level; it only indicates that some caution is needed to embark on such an exercise. It should be borne in mind that the very nature of a *sui generis* regime requires consideration of the set of issues referred to earlier – namely, to have in view the particular context in which each regime is bound to apply. The issues at stake are too important to make decisions based on simple emulation or on unsubstantiated discourses of fear or hope about the impact of such regimes.

It has not been the purpose of this chapter to recommend a particular modality of *sui generis* regime nor the type of requirements that could be applied. As a general rule, however, it may be suggested that the more the NDUS standards are relaxed – which is necessary, in one way or another, in order to develop a *sui generis* regime – the narrower the rights conferred should be. It should also be borne in mind that a well-defined system of benefit sharing based on remuneration rights, without granting exclusionary rights, may suffice to compensate farming communities for their contributions to the conservation and improvement of plant varieties.
Notes


2 In the United States, nearly 600 seed companies were operating by 1890. The American Seed Trade Association was established in 1883.


4 With the participation of West Germany, Austria, Italy, Belgium, Spain and the Netherlands, with Denmark, Norway, and Switzerland as observers.

5 A basic difference between patent protection and plant variety protection (PVP) is that the latter allows for the use of a protected variety to develop and commercialize a new variety (breeder’s exception). The 1978 UPOV Convention also allowed what is known as the ‘farmers’ privilege’ – that is, the right to save and use seeds obtained from the cultivation of protected varieties.


7 The United States has promoted this approach in the free trade agreements that have been signed with a number of developed and developing countries since 2000 (see, for example, Correa, 2009).


10 Patents have been granted on the basis of claims relating to phenotypic characteristics or to a combination of phenotypic and genotypic characteristics. A trait identified or bred into plant lines may be claimed either phenotypically or genotypically.

11 Patent grants in the United States including plant cell and tissue culture technologies, enabling plant biotechnologies, genetic traits and germplasm showed strong growth trends after this decision (Boettiger et al., 2004, 1093).

12 Convention on the Grant of European Patents, online: <www.epo.org/patents/law/legal-texts/html/epc/1973/e/ma1.html>. The scope of this exclusion has been circumscribed by EC Directive 98/44 on the Legal Protection of Biotechnological Inventions, which states that ‘inventions which concern plants or animals may be patented if the practicability of the invention is not technically confined to a particular plant or animal variety’ (Article 4.2). In particular, the European Patent Office has allowed the patentability of transgenic methods and plants.


14 It is to be noted that Article 27.3(b) obliges members to grant patents on microorganisms (provided they meet the corresponding patentability standards) but not on cells or subcellular parts, such as genes.

15 The International Seed Federation ‘considers that the UPOV Convention, and particularly its 1991 Act, is an effective sui generis system for the protection of plant varieties’ (International Seed Federation, 2003).

16 The admission of new members is subject to prior verification of compliance with the obligations under the UPOV Convention.

17 Since new plant varieties incorporate incremental improvements on existing varieties, they will rarely be patentable, unless the novelty and inventive steps are relaxed and the disclosure requirements are adapted. For instance, in Canada, a patent claim for a soybean variety applied by Pioneer Hi-Bred was rejected by the Supreme Court on the ground that no description of the method was available, although the seeds of the variety were deposited (see Judgments of the Supreme Court of Canada, online: <http://csc.lexum.umontreal.ca/en/1989/1989sc1–1623/1989sc1–1623>). The option of patenting plant varieties, thus, may in practice lead to the protection of a very small number of such
varieties. However, patent holders would enjoy stronger exclusive rights than under PVP. In addition, the peculiarities of patent laws (such as the mixed relative/absolute novelty requirement that was applied under US law) may allow the acquisition of patents over plant varieties developed by traditional farmers, thereby leading to one form of ‘biopiracy’ (Correa, 2002). In 2001, the US Supreme Court decided in *J.E.M. AG Supply, Inc. v Pioneer Hi-Bred Int’l, Inc.*, 534 U.S. 124 (2001), that sexually reproduced plants are statutorily proper subject matter for full utility patents.


20 See an illustrative list of relevant literature in Annex I of this chapter.

21 Many of these arguments have been contested in the literature on the subject (see e.g. Dutfield, 2000, 50–53). The concerns presented in this section are intended to provide the reader with a broad picture about the debates regarding this issue. The discussion on the merits of the various arguments is beyond the purpose of this chapter.

22 Based on the intervention by Dan Leskien at the workshop held by the Genetic Resources Policy Initiative (GRPI) in Hanoi on 26–28 October 2006. Currently, however, there is no restriction to do so with farmers’ varieties.

23 Based on a presentation by Dan Leskien at the workshop held by the GRPI in Hanoi on 26–28 October 2006.

24 On the cost of acquiring PVP on cultivars in some jurisdictions, see Tripp, Louwaars and Eaton, 2007, 363.

25 In recognizing the problems associated with the implementation of PVP for a broad number of crops, Article 4 of the 1978 UPOV Convention only required the gradual coverage of different crops. When the convention entered into force for a country, only a minimum of five crops had to be covered. This changed with the 1991 revision, which required new members to protect 15 genera or species upon accession and all genera and species within 10 years.

26 The treaty stipulates the following:

> **Article 9.1** The Contracting Parties recognize the enormous contribution that the local and indigenous communities and farmers of all regions of the world, particularly those in the centres of origin and crop diversity, have made and will continue to make for the conservation and development of plant genetic resources which constitute the basis of food and agriculture production throughout the world.

> **Article 9.2** The Contracting Parties agree that the responsibility for realizing Farmers’ Rights, as they relate to plant genetic resources for food and agriculture, rests with national governments. In accordance with their needs and priorities, each Contracting Party should, as appropriate, and subject to its national legislation, take measures to protect and promote Farmers’ Rights, including:

a. protection of traditional knowledge relevant to plant genetic resources for food and agriculture;

b. the right to equitably participate in sharing benefits arising from the utilization of plant genetic resources for food and agriculture; and

c. the right to participate in making decisions, at the national level, on matters related to the conservation and sustainable use of plant genetic resources for food and agriculture.

> **Article 9.3** Nothing in this Article shall be interpreted to limit any rights that farmers have to save, use, exchange and sell farm-saved seed/propagating material, subject to national law and as appropriate.

that influenced this legislation (including, in particular, the draft Plant Variety Recognition and Rights Act of the M.S. Swaminathan Foundation), see Dhar and Chaturvedi, 1998, 248–49.

28 Article 2(j): ‘extant variety’ means a variety available in India which is:

(i) notified under section 5 of the Seeds Act, 1966 (54 of 1966);
(ii) farmers’ variety;
(iii) a variety about which there is common knowledge; or
(iv) any other variety which is in the public domain.

29 Plant Variety Protection Act, online: <www.grain.org/brl_files/thailand-pvp-1999-en.pdf> [PVP Act].
30 Protection of New Plant Varieties Act 2004, online: <www.grain.org/brl/?docid=657&lawid=1404>.
31 In the 1950s, the ‘AIPPI [International Association for the Protection of Intellectual Property] opposed the patenting of plant varieties on the grounds that doing so would stretch basic patent law concepts like inventiveness to the point of undermining the credibility of the patent system’ (Dutfield, 2003, 186).
32 It is worth noting, however, that unlike the concept of novelty under patent law, a variety continues to be ‘novel’ in the context of PVP even if it has been known for a long time as long as it was not sold or commercialized with the consent of the breeder for some specified periods before the filing date of the application for protection (see e.g. Article 6 of the 1978 UPOV Convention).
33 Section 12(2) of the act requires that distinctness be ‘related to the feature beneficial to the cultivation, consumption, pharmacy, production or transformation, including the distinctness from the following plant varieties: (a) plant varieties already registered and protected, whether in or outside the Kingdom, prior to the date of filing the application; (b) plant varieties in respect of which application for registration has been made in the Kingdom and which will subsequently have been registered.’
34 The concept of novelty differs, however, from that contained in the 1991 UPOV Convention as disposal of the variety only affects its possible protection if made ‘on a commercial basis’ (section 14(3)(a)). This change may permit the protection of existing local varieties insofar as they have not been commercialized.
35 See the presentation by Lim Eng Siang at the GRPI meeting in Hanoi (Genetics Resources Policy Initiative, 2006, 17–18).
37 Many commercial varieties are bred with the deliberate aim of obtaining a high degree of uniformity in order to respond to market demands and/or to comply with the seed certification or PVP requirements.
38 Landraces, which constitute a major component of the pool of plant genetic resources available to farmers, have been defined by the Food and Agricultural Organization ‘as an early, cultivated form of a crop species, evolved from a wild population, and generally composed of a heterogeneous mixture of genotypes.’ See Biotechnology in Food and Agriculture, online: <www.fao.org/biotech/find-formalpha-n.asp>.
39 This is not problematic for farmers’ varieties, which may be differentiated following conventional methods.
40 This standard means that each generation of a plant variety must be identifiable as the same distinct plant variety, without necessarily being uniform in all of its characteristics (Leskien and Flitner, 1997).
41 A community may be granted exclusive rights to conserve, use, research, sell and commercialize a registered plant variety.
In accordance with section 52 of the law, ‘a person who collects, procures or gathers general domestic plant varieties, wild plant varieties or any part of such plant varieties for the purposes of variety development, education, experiment or research for commercial interest shall obtain permission from the competent official and make a profit-sharing agreement under which the income accruing therefrom shall be remitted to the Plant Varieties Protection Fund.’

This solution has raised concerns since some farmers may hypothetically exclude other farmers from using widely diffused varieties that are not novel and thereby jeopardize the traditional exchange of seeds (Robinson, 2007, 24).

The PPVFR Act, supra note 27, issued by the Ministry of Agriculture in December 2006, implements benefit sharing for farmers and communities, in cases where their genetic resources have contributed to third parties’ new variety development (Form 1, Part 10(c)).

Under a liability regime no exclusive rights are granted; hence, any party may use the protected subject matter against payment of a remuneration to the title holder.

The PPVFR Act, supra note 27, requires information about the origin of the variety including geographical source and farmer/village/community/institution/organization (Form 1, Part 10(b)).

Owing to this obligation, the International Union for the Protection of New Varieties of Plants has refused to recognize Egypt as being in compliance with the UPOV Convention. However, the obligation is a condition for the application and not an additional condition for protection (Genetic Resources Policy Initiative, 2006, 18).

References and bibliography


Sui generis protection for farmers’ varieties


Annex I: selected bibliography on the impact of PVP


van Wijk, J., and W. Jaffé (1995). *The Impact of Plant Breeders’ Rights in Developing Countries: Debate and Experience in Argentina, Chile, Colombia, Mexico, and Uruguay*, University of Amsterdam, Amsterdam.